

89-0266

Colbert  
COLSF 7.2.3 VI  
3/21/89

AGREEMENT TO PERFORM  
ENGINEERING SERVICES  
FOR  
REMEDIAL DESIGN/REMEDIAL ACTION (RD/RA)  
FOR COLBERT LANDFILL,  
SPOKANE COUNTY, WASHINGTON

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This Agreement is made and entered into this 21 day of MARCH, 1989, by and between Spokane County, a political subdivision of the State of Washington, having offices for the transaction of business at West 1116 Broadway Avenue, Spokane, Washington, hereinafter referred to as the "County", and Landau Associates, Inc., having offices for the transaction of business at 23107 - 100th Avenue West, P. O. Box 1029, Edmonds, Washington, 98020-1029, a Washington corporation, hereinafter referred to as the "Consultant".

This Agreement specifies the terms and conditions under which the Consultant will provide specified engineering consulting services to the County in support of Remedial Design/Remedial Action (RD/RA) for the Colbert Landfill in Spokane County, Washington, hereinafter referred to as the "Project".

#### R E C I T A L S

A. On January 9, 1989, the United States Environmental Protection Agency (EPA) and the Washington State Department of Ecology (DOE) filed a complaint in U. S. District Court for the Eastern District of Washington, Cause No. C-89-033-RJM, against the County and Key Tronic Corporation under federal and state hazardous waste and "Superfund" legislation. The complaint alleges that the County and Key Tronic are liable for the release, threatened release or disposal of hazardous substances, pollutants or contaminants at the Colbert Landfill site, located in Spokane County.

B. On February 28, 1989, the County and Key Tronic entered into a Consent Decree with the EPA and the DOE whereby the County agreed to implement the final remedial action plan set forth in the Consent Decree, for cleanup of the site. The Consent Decree incorporates by reference Appendices A, B, C and D. Pages VIII-1 and VIII-2 of Appendix B were amended by the Court on February 28, 1989, according to substituted language contained in Exhibit F, Supplemental Memorandum in Support of Motion for Entry of Consent Decree (filed with the Court).

C. Among other requirements, the Consent Decree:

(1) Provides for the establishment of schedules, dates and deadlines for the various steps and requirements, including without limitation, progress reports, work plans and other submittals;

(2) Identifies certain performance and compliance requirements (including, without limitation, statutory and regulatory criteria, standards, regulations, guidance and technical and procedural requirements) by which the work plans and scope of work are to be performed and accomplished;

(3) Provides for certain requisite approvals by the EPA and DOE;

(4) Establishes certain notification requirements (including timing) with regard to matters of dispute and certain procedures for resolution of disputes arising from carrying out the requirements of the Consent Decree;

(5) Establishes certain procedures and requirements (including timing) governing requests for extensions of schedules;

(6) Provides for certain penalties for violations of the Decree, including failure to make a submittal to DOE and EPA in accordance with the Decree or to comply with any required and approved time schedule; and

(7) Provides for implementation of remedial action by the EPA/DOE at the County's expense upon the County's failure without good cause to comply with the Consent Decree.

D. The Consent Decree requires the County to provide a copy of the Consent Decree to each contractor or subcontractor retained to perform work contemplated by the Consent Decree, and to condition any contract for such work on compliance with the Consent Decree.

E. The Consent Decree requires that the County preserve, during the pendency of the Consent Decree, and for ten (10) years from the date of its termination, all records, reports, documents, and underlying data in their possession, or in the possession of their employees and agents, relevant to the implementation of the Consent Decree, unless otherwise ordered by the Court. The County is further obligated to require all such records in the possession of contractors to be provided to them and to retain copies of all records which are non duplicative.

F. The Consultant has been designated by the County as the most qualified firm, among those firms submitting proposals, to conduct the professional engineering services called for in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, the County and the Consultant mutually agree to the following terms, stipulations and conditions of this Agreement and any amendments thereto shall be binding upon both parties:

#### I. INCORPORATION OF RECITALS AND CONSENT DECREE

The Recitals above and the Consent Decree are incorporated by reference and made a part of this Agreement. Both parties have thoroughly reviewed the Recitals and the provisions of the Consent Decree.

#### II. CONTRACT DOCUMENTS

This Agreement includes and incorporates Sections I-XI, Attachment A - Scope of Services, and Attachment B - Estimated Cost Budget Summary as the contract documents.

#### III. SCOPE OF SERVICES

This Agreement is expressly conditioned upon the performance of Consultant's work in compliance with the Consent Decree.

The Consultant shall furnish all services and labor necessary to conduct and complete Phase I, including site investigation, pilot extraction well design and installation, treatment system development and analysis, and facility evaluation services, as well as Phase II, design, plans and specifications, all as further described in Attachment A - Scope of Services.

The Consultant may subcontract certain elements of work, including but not limited to:

- (1) Evaluation, design and operation of the pilot treatment system;
- (2) Design of pipelines, utilities and structures;
- (3) Surveying;
- (4) Public relations;
- (5) Well drilling and development;
- (6) Water quality testing; and
- (7) Construction of facilities.

For the purposes of this Agreement, "Major Subconsultants" shall be defined as those firms or individuals retained by the Consultant to perform professional engineering and surveying services within the Scope of Services; "Major Subcontractors" shall be defined as those firms or individuals retained by Consultant, or by Major Subconsultants, to provide chemical laboratory testing services, well drilling and development, pilot water treatment equipment, and construction of piping systems. The term "subcontractors" shall include Major Subconsultants, Major Subcontractors, and all subcontractors and subconsultants providing services within the Scope of Services.

The Consultant is the lead engineering consultant for performance of the services provided for in this Agreement, and shall employ, be responsible for, and direct the work of all necessary subcontractors.

The Consultant shall ascertain such information as may have a bearing on the project from local units of government and public and private utilities, and shall be authorized to procure information from other authorities besides the County. The Consultant shall keep the County advised as to the extent of these contacts and the results thereof.

#### IV. CRITERIA AND CONDITIONS

The Consultant shall have sufficient knowledge, experience and training to apply the latest edition of applicable state and federal health and safety requirements for working at hazardous waste sites insofar as they apply to the Project.

Except as otherwise provided in this Agreement, the Consultant shall with due diligence furnish all necessary qualified personnel and subcontractors, materials and equipment, and manage and direct the same to complete the Scope of Services within the schedule established by the Consent Decree.

The Consultant shall assist the County in timely meeting and fully complying with pertinent requirements of the Consent Decree, in an economical and cost effective manner for the County. The Consultant will promptly alert the County as to matters that the Consultant becomes aware of and which require notification by the County under the Consent Decree, including but not limited to timely requests for extensions of time, or objections to actions or decisions of the EPA or DOE, which are or may be the subject to the dispute resolution provisions of the Consent Decree.

The Consultant's services shall be coordinated with the County Public Works Director (or his authorized designee), who may issue written or oral instructions regarding Consultant's performance of the Project. Any instructions that materially effect the scope of services, price, period of performance, or any other provision of this Agreement, shall require an amendment to this Agreement executed with the same formalities as this Agreement. However, a change or increase in the Scope of Services that is compensated through the County's utilization of the contingency funds provided for in Section VI shall not require an amendment to this Agreement.

The Consultant shall ensure that a copy of the Consent Decree is provided to each Major Subconsultant and Major Subcontractor retained to perform work under the Scope of Services contained in this Agreement.

As required in Appendix D of the Consent Decree, and at the request of the County and EPA, the Consultant shall in conjunction with the County furnish the personnel, services, documents and materials needed to assist the EPA in the collection of evidence to document work performed and costs expended by the Consultant or its subcontractors pursuant to this Agreement in order to aid cost recovery efforts by the United States. Such assistance shall include providing all requested assistance in the interpretation of evidence and costs and providing requested testimony. All such assistance provided by the Consultant or its subcontractors, requested by the County or EPA, shall be considered extra work and

shall entitle the Consultant to an equitable adjustment in compensation and other provisions of this Agreement that may be effected.

#### V. TIME OF BEGINNING AND COMPLETION

This Agreement shall be effective from its date of execution by the County until completion of the Scope of Services.

Established completion times for tasks may be extended due to delays attributable to the County, unavoidable delays caused by governmental action or other conditions beyond the control of the Consultant, or by mutual consent of the County and the Consultant. The Consultant may adjust its personnel to meet required schedules, but time adjustments for completion may be made only upon written approval of the County.

The County shall have the right to review and examine the Consultant's work and products at any time. Regular progress reports shall be prepared by the Consultant as specified in the Consent Decree and Attachment A. Additional progress reports may be required by the County in the event of delays attributable to the Consultant.

#### VI. COMPENSATION AND TERMS OF PAYMENT

Compensation by the County to the Consultant shall be as follows (see Attachment B):

##### A. Cost Plus Fixed Fee.

(1) For those services enumerated in Section III above, the Consultant shall be paid its Direct Payroll, Overhead, Direct Expenses and a Fixed Dollar Fee. A Maximum Price has



been established in the sum of Four Million Three Hundred Thousand and no/100 Dollars (\$4,300,000.00), which shall not be exceeded without a formal amendment to this Agreement.

(2) The Fixed Dollar Fee of Three Hundred Eighty-Two Thousand Nine Hundred and no/100 Dollars (382,900.00) may not be increased or decreased, except in the case of a formal amendment to this Agreement which recognizes a change in the scope of services or performance of the Consultant.

(3) The Maximum Price includes a contingency fund of approximately fifteen percent (15%) of the Cost (see Attachment B), representing a sum of Four Hundred Ninety-Eight Thousand, Three Hundred and no/100 Dollars (\$498,300.00). Contingency funds will be made available to the Consultant only with the written consent of the County Public Works Director, and usage shall be limited to work scope items defined by the County. Any increase in the Fixed Dollar Fee shall be negotiated between the Parties hereto.

B. Maximum Price. The Consultant shall make reasonable efforts to complete the Scope of Services within the Maximum Price and shall keep the County informed of the financial progress of expenditures so that the Maximum Price or work effort can be adjusted if found to be necessary. The Maximum Price shall not be exceeded without the County's prior written approval, and the County is not otherwise obligated to pay the Consultant for costs incurred beyond the Maximum Price. The County may require the Consultant to complete at cost any and all work within the current

scope of services remaining unperformed at the time the Maximum Price is reached, without any adjustment in the Fixed Dollar Fee. When the Maximum Price is increased, the Consultant's excess costs expended before such increase shall be allowable to the same extent as if such costs had been incurred after the approved increase.

C. Direct Payroll Cost. Direct Payroll Cost is the sum of the direct salaries or wages paid to the employees of the Consultant and its Major Subconsultants for work directly performed pursuant to this Agreement, exclusive of all payroll related taxes, payments, premiums and benefits. The Direct Payroll Cost is estimated to be Six Hundred Seventy-Three Thousand and no/100 Dollars (\$673,000.00).

D. Overhead. Overhead is the total overhead cost applicable to the services performed by the Consultant and Major Subconsultants pursuant to this Agreement. A negotiated overhead of One Hundred Sixty-One Percent (161%) of the Direct Payroll Cost shall be utilized to determine compensation by the County for all services described in Attachment A, or compensated through use of the County's contingency fund.

E. Direct Expenses. Direct Expenses include all reasonable and necessary expenses incurred by Consultant and Major Subconsultants in performing the services pursuant to this Agreement, other than the Direct Payroll Cost and Overhead. Direct Expenses shall include but are not limited to rebillables for project purchases,

travel, communications, equipment rental, printing, company owned equipment charge, and subcontractor costs.

F. Terms of Payment.

(1) The Consultant shall be paid monthly by the County for services completed pursuant to this Agreement. Invoices shall be sent to: Dean Fowler, Spokane County Utilities Department, North 811 Jefferson, Public Works Building, Spokane, Washington, 99260-0170.

Invoices shall detail the employee hours, hourly payroll cost, overhead, direct expenses and prorated amount of the Fixed Fee.

(2) Payment shall be made to Consultant by the County within thirty (30) days after receipt by the County of the Consultant's invoice and appropriate documentation. The County shall pay interest on any overdue amounts at the rate of one percent (1%) per month, but at least one dollar (\$1.00) per month. Payments shall not be deemed past due as to any amounts required to be withheld under state or federal law or when the County supplies written notice that payment is being withheld because of a good faith dispute; provided, that resolution of such dispute in Consultant's favor shall entitle Consultant to the interest under this subparagraph that would otherwise be due on the delinquent and unpaid amounts. Payments by the County shall first be credited to interest and then to principal.

(3) Payment shall constitute full compensation for services rendered and for all supervision, labor, supplies, materials, equipment or use thereof, and for all other incidentals necessary to complete the scope of services under this Agreement.

(4) The Consultant shall permit the County, from time to time as the County deems necessary (including after the expiration or termination of this Agreement), to inspect and audit at any reasonable times at the Consultant's or subconsultants' offices, all pertinent books and records of the Consultant and any subconsultants or other person or entity that has performed services or work in connection with or related to the Consultant's services under this Agreement, to verify the accuracy of accounting records; and shall supply the County with, or shall permit the County to make, a copy of any books and records and any portion thereof requested. The Consultant shall require that such inspection, audit, or copying right of the County is a condition of any subcontract, agreement, or other arrangement under which any other person or entity is permitted to perform work in connection with or related to the Consultant's services under this Agreement.

The Consultant shall keep complete and accurate time records with respect to all salaries paid as well as complete and accurate records in accordance with generally accepted accounting practices of all other reimbursable costs and

expenses for purposes of audit. These records shall be retained and made available for inspection by any authorized representative of the County, state or federal government for a period of six (6) years after expiration or termination of this Agreement. At the end of the six (6) year period, the County shall be notified by the Consultant of the intent of the Consultant or any subcontractor to destroy or discard such records, in order to allow the County the opportunity to take possession of such records before they are destroyed.

#### VII. COMPLIANCE WITH LAWS

A. General Requirement. The Consultant shall perform and comply with all applicable laws of the United States, the State of Washington; and the laws and ordinances of local agencies, including the ordinances of Spokane County; and rules, regulations, orders, and directives of their administrative agencies and the officers thereof.

B. Licenses and Similar Authorizations. The Consultant shall secure and maintain in full force and effect during the term of this Agreement all required licenses, permits, and similar legal authorizations, and comply with all requirements thereof; except for any permits and licenses required of the County for construction or operation of the Project.

C. Nondiscrimination and Affirmative Action. During the performance of this Agreement, the Consultant agrees not to discriminate against any employee or applicant for employment because of race, religion, creed, color, sex, marital status,

sexual orientation, political ideology, ancestry, national origin, or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification. The Consultant will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their creed, religion, race, color, sex, national origin, or the presence of any sensory, mental or physical handicap. The Consultant shall incorporate this provision in all subcontracts as a requirement of the respective subcontractor.

D. Women's and Minority Business Enterprise Utilization.

During the term of this Agreement, the Consultant is encouraged to meet the following minimum goals in purchases and contracts, expressed as a percentage of the total dollars available for the purchase or contract:

Minority-owned business participation - 10%.

Women-owned business participation - 6%.

The Consultant is further encouraged to:

1. Include qualified minority and women's business on solicitation lists;
2. Ensure that qualified minority and women's business are solicited whenever there are potential sources of services or supplies;
3. Divide the total requirements, when economically feasible into smaller tasks or quantities to permit maximum participation by qualified minority and women's business;
4. Establish delivery schedules where requirements of the work permit, which will encourage participation of qualified minority and women's business; and

5. Use the services and assistance of the State Office of Women and Minority Owned Business and Office of Minority Business Enterprises of the U. S. Department of Commerce as appropriate.

In the event that the County, as a result of grant or funding requirements or other reasons, subsequently requires that the Consultant meet the above goals, the County shall negotiate with the Consultant an equitable adjustment in compensation and terms of performance necessitated by the Consultant's compliance with said goals.

E. Employment. Any and all employees of the Consultant or subcontractor while engaged in the performance of any services required by the Consultant under this Agreement shall be considered employees of the Consultant or subcontractor and not of the County, and any and all claims made by any third party as a consequence of any negligent act or omission on the part of the consultant's employees or other persons while so engaged in any of the work or services provided to be rendered herein shall be the obligation and responsibility of the Consultant.

The Consultant shall not engage, on a full or part time basis, or other basis during the period of the Agreement, any professional or technical personnel who are or have been at any time during the period of the Agreement in the employ of the County except retired employees, without the written consent of the County.

#### VIII. SUBLETTING OR ASSIGNING OF WORK

The Consultant shall not subcontract any of the services or

work covered by this Agreement or any amendment thereof without prior notification of the County.

This Agreement or any amendments thereto are not assignable by the Consultant either in whole or in part.

The Consultant may employ outside specialists to enable the Consultant to complete services as defined under Section III (SCOPE OF SERVICES) of this Agreement or any amendment thereto. Compensation for outside specialists shall be made in accordance with the terms and rates agreed upon between the County and the Consultant and shall be included within the Maximum Price specified under Section VI (COMPENSATION AND TERMS OF PAYMENT) of this Agreement.

#### IX. LEGAL RELATIONS

A. Applicable Law; Venue. This Agreement shall be construed and interpreted in accordance with the laws of the State of Washington. The venue of any action brought hereunder shall be in the Superior Court for Spokane County.

B. Errors and Omissions; Correction. The Consultant shall be responsible for the professional quality, technical accuracy and the coordination of all designs, drawings, specifications, and other services furnished by or on the behalf of the Consultant under this Agreement or any Supplements thereto. The Consultant, without additional compensation, shall correct or revise any errors or omissions in the designs, drawings, specifications and/or other Consultant services immediately upon notification by the County. The Consultant's obligations under this subsection B



shall continue after the termination or expiration of this Agreement.

C. Indemnity. The indemnification provided for in this Section IX with respect to any negligent acts or omissions during the term of this Agreement shall survive any termination or expiration of this Agreement.

The Consultant agrees to indemnify and hold harmless the County, its officers, agents, servants and employees from and against any claim, suit, action, or liability, including expenses incident thereto (each, a "Consultant indemnified claim or liability") arising from, but not limited to, bodily injury or death (including bodily injury or death to employees of Consultant or its subcontractors), or physical injury to or loss of use of property, arising from the negligence or willful misconduct under this Agreement of the Consultant, its subcontractors, or their respective directors, officers, agents, servants or employees.

The County acknowledges that Consultant played no part in the creation or presence of Pollution Conditions, (as defined below) if any, which may exist at the Site (as defined below). The County agrees that Consultant's only involvement with the Site is to perform services in accordance with the terms of this Agreement.

The County agrees to indemnify and hold harmless Consultant, its directors, officers, agents, servants and employees from and against any claim, suit, action or liability including expenses

incident thereto arising out of services performed under this Agreement when such County-indemnified claim or liability is based on bodily injury to or death of a third party, physical injury to or loss of use of property of a third party or clean-up costs (including studies and design) which result from Pollution Conditions (as defined below) existing at or emanating from the Site (as defined below) prior to, during or after completion of Services performed under this Agreement, except to the extent that such bodily injury or death of a third party or physical injury to or loss of use of property of a third party, or increased clean-up costs (including studies and design), is caused by the negligence or willful misconduct of Consultant or its subcontractors, or their respective directors, officers, agents, servants or employees.

The County agrees to indemnify and hold harmless Consultant from any and all reasonable attorney's fees incurred by Consultant or its subcontractors or their respective directors, officers, agents, servants or employees incident to any third party claim or liability described in this subsection C if such claim or liability does not involve negligence or willful misconduct of Consultant or its subcontractors or their respective directors, officers, agents, servants or employees; provided further, that this indemnification shall be inapplicable if such claim or liability (and the duty to defend the same) is covered under any policy of insurance required of or maintained by any indemnitee.

The foregoing obligation of each party to indemnify and hold harmless is conditioned upon: a) receipt by the indemnifying party of prompt written notice from an indemnitee of any circumstances that are likely to give rise to any claim or liability or any actual claim or liability that falls within the scope of this indemnity, b) the indemnifying party's right to conduct the defense or settlement of any action related to any such claim or liability, and c) the indemnitee's cooperation with the indemnifying party in any such defense.

For the purpose of this Section IX, a) the term "Pollution Condition" shall mean the actual or alleged existence, discharge, dispersal, release, or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere, or any water course or body of ground or surface water, b) the term "Site" means the land and structures constituting the facilities of the County (specifically the Colbert Landfill) and the surrounding area or any other property designated by the County or by the Consent Decree, and c) the term "third party" excludes employees of the Consultant, their subcontractors or agents, and the County.

D. Remedies Cumulative. Rights under this Agreement are cumulative; the failure to exercise on any occasion any right shall not operate to forfeit such right on another occasion. The use of one remedy shall not be taken to exclude or waive the right to use another.

E. Professional Liability Insurance. Consultant shall at its own expense procure and maintain in full force and effect during the term of this Agreement a policy of professional liability insurance providing coverage of at least \$1,000,000 against professional liability for errors and omissions in connection with the professional engineering services to be performed by the Consultant under this Agreement. The Consultant shall furnish evidence of such insurance to the County in such forms and at such times as the County shall reasonably require. The Consultant shall maintain such professional liability coverage, if such insurance is reasonably available, for a period of three (3) years after the termination of this Agreement, or any supplement thereto.

These insurance amounts and evidence of coverage shall be required of all Major Subconsultants furnishing professional services for the Consultant.

F. General Liability Insurance. Prior to undertaking any services under this Agreement, the Consultant, at its own expense, shall obtain and file with the County evidence of a policy of general comprehensive and vehicle liability insurance, which policies (1) shall be subject to approval by the County as to company, form and coverage; (2) must fully protect the County from claims and risks in connection with activities by the consultant by virtue of this Agreement; and (3) shall name the County as additional insured. Such policy shall cover at least the following:

Comprehensive - General Liability Insurance - \$1,000,000 per occurrence, combined single limit.

Comprehensive - Automobile and Vehicle Liability Insurance - \$1,000,000 per occurrence, combined single limit (including all on-site and off-site operations; all owned, non-owned, leased or hired vehicles).

These insurance amounts and evidence of coverage shall be required of all Major Subconsultants and subcontractors providing site activities, including, but not limited to, well drilling.

Said general comprehensive and vehicle liability insurance policy and subsequent renewals must be maintained in full force and effect at no expense to the County throughout the entire term of the Agreement and any Supplement thereto. The respective insurance policies shall state that coverage will not be cancelled, suspended, or reduced in coverage or in minimal limits except after thirty (30) days written notice by certified mail has been given to the County.

G. Worker's Compensation. Consultant shall maintain worker's compensation coverage under the Washington State Worker's Compensation Act.

#### X. TERMINATION OF AGREEMENT

A. Termination of Agreement for Cause. Either party may terminate this Agreement or any Supplement thereto in the event the other fails to materially perform its obligations as described in this Agreement, and such material failure has not been corrected in a timely manner after notice of breach has been provided to the nonperforming party.

Comprehensive - General Liability Insurance - \$1,000,000 per occurrence, combined single limit.

Comprehensive - Automobile and Vehicle Liability Insurance- \$1,000,000 per occurrence, combined single limit (including all on-site and off-site operations; all owned, non-owned, leased or hired vehicles).

These insurance amounts and evidence of coverage shall be required of all Major Subconsultants and subcontractors providing site activities, including, but not limited to, well drilling.

Said general comprehensive and vehicle liability insurance policy and subsequent renewals must be maintained in full force and effect at no expense to the County throughout the entire term of the Agreement and any Supplement thereto. The respective insurance policies shall state that coverage will not be cancelled, suspended, or reduced in coverage or in minimal limits except after thirty (30) days written notice by certified mail has been given to the County..

G. Worker's Compensation. Consultant shall maintain worker's compensation coverage under the Washington State Worker's Compensation Act.

#### X. TERMINATION OF AGREEMENT

A. Termination of Agreement for Cause. Either party may terminate this Agreement or any Supplement thereto in the event the other fails to materially perform its obligations as described in this Agreement, and such material failure has not been corrected in a timely manner after notice of breach has been provided to the nonperforming party.

B. For Reasons Beyond Control of Parties. Either party may terminate this Agreement or any Supplement thereto without recourse by the other where performance is rendered impossible or impracticable for reasons beyond such party's reasonable control such as, but not limited to, acts of nature; war or warlike operations; civil commotion; riot; labor dispute including strike, walkout, or lockout; sabotage; or superior governmental regulation or control.

C. Termination by County for Any Reason. The County may terminate this Agreement for any reason, other than as recited in Subsections A and B above, upon thirty (30) days written notice to the Consultant. In such event, the County shall pay Consultant for all work previously authorized and performed before the termination date, including the prorated Fixed Fee; as well as reasonable termination expenses, including reassignment of personnel, subcontractor termination costs incurred by Consultant and related closeout costs.

D. Notice. Notice of termination pursuant to Subsections A and B above shall be given by the terminating party to the other party at least twenty (20) days prior to the effective date of termination.

E. No Waiver of Remedies. Nothing herein shall be construed to limit the parties' remedies for material breach of contract. The County is not obligated to pay any fees or expenses which specifically involve negligent acts or omissions by the Consultant.

## XI. SPECIAL STIPULATIONS

A. General. The services under this Agreement shall at all times be subject to the general review and approval of the County. The Consultant shall periodically, during the progress of the work, confer with the County, and shall be subject to the direction of the County and shall prepare and present such information and materials as may be pertinent, necessary, or as may be requested by the County to determine the adequacy of the services.

The working relationship as indicated herein shall exist at the discretion of the Public Works Director; it may be revised at any time upon written notice, at the sole discretion of the Director.

B. Contractual Relationship. This Agreement or any supplement thereto does not constitute the Consultant as the agent or legal representative of the County for any purpose whatsoever. The Consultant is not granted any express or implied right or authority to assume or create any obligation or responsibility on behalf of or in the name of the County or to bind the County in any manner or thing whatsoever.

C. Addresses for Notices and Deliverable Materials. All notices and other material to be delivered hereunder shall be in writing and shall be delivered or mailed to the following addresses:

If to the County:

Mr. Dean Fowler  
Spokane County Utilities Department



North 811 Jefferson  
Public Works Building, First Floor  
Spokane, Washington 99260-0170

If to the Consultant:

Landau Associates, Inc.  
(23107 - 100th Avenue West)  
P.O.Box 1029  
Edmonds, Washington 98020-1029

or such other respective addresses as either party may from time to time designate in writing.

D. Professional Services. The Consultant represents that the services furnished under this Agreement will be in accordance with generally accepted professional practices. Any estimate of cost of equipment, construction, ownership or operation furnished by the Consultant shall be the Consultant's opinion based upon its professional judgment and experience.

E. Endorsement. The Consultant, or its subconsultants where applicable, shall endorse all plans and specifications prepared pursuant to this Agreement.

F. Ownership of Documents. All drawings, plans, prints, specifications, field notes and other related documents prepared or obtained by the Consultant and its subcontractors in connection with the provision of services under this Agreement are and shall be the County's property, and such material shall be delivered to the County upon request. The County agrees to indemnify and hold harmless the Consultant from and against any claims arising out of the subsequent use by the County of any documents provided under this Agreement for any purpose other than the work anticipated under this Agreement. The Consultant shall retain the original of

all records, reports, documents and underlying data generated by the Consultant, for a period of ten (10) years after expiration or termination of this Agreement, and the Consultant shall also require its subcontractors to meet this same requirement on behalf of the County.

G. Strict Compliance Required. Strict compliance with the terms of this Agreement is essential for the legal disbursement of public funds, for the purposes described herein. Deviation of any sort from the Agreement terms must be authorized formally in writing. No other authority for deviation from the Agreement will be recognized as proper and official.

H. Amendments. No modification or amendment of the provisions hereof shall be effective unless in writing and signed by the parties hereto. The parties hereto expressly reserve the right to modify this Agreement, from time to time, by mutual agreement.

I. Executory Agreement. This Agreement will not be considered valid until executed by both the County and the Consultant.

J. Binding Effect. The provisions, covenants and conditions in this Agreement apply to bind the parties, their legal heirs, representatives, successors and assigns.

K. Severability. If any of the provisions contained in this Agreement are held for any reason to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not effect any other provisions, and this

Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the day and year first set forth above.

BOARD OF COUNTY COMMISSIONERS  
OF SPOKANE COUNTY, WASHINGTON

John R. McBride  
John R. McBride  
Patricia A. Mummey  
Patricia A. Mummey  
Steven Hasson  
Steven Hasson

ATTEST:  
WILLIAM E. DONAHUE,  
Clerk of the Board

By Shanne Montague  
Deputy Clerk  
89-0266

LANDAU ASSOCIATES, INC.

By Henry G. Landau 23 Mar 89  
Signature Date

Henry G. Landau  
Type or Print Name

President  
Title

600 557 469

Washington State Certification  
of Registration Tax Number  
(Department of Revenue)

## ATTACHMENT A

### COLBERT LANDFILL REMEDIAL DESIGN/REMEDIAL ACTION SCOPE OF ENGINEERING SERVICES

#### INTRODUCTION

This Scope of Services (SOS) for engineering services relates to the remedial design/remedial action for the Colbert Landfill site, is based on the Colbert Landfill Consent Decree Scope of Work (Appendix B of the Consent Decree, hereafter referred to as Scope of Work), and addresses Phase I Remedial Design, Phase I Remedial Action (pilot study), and Phase II Remedial Design.

#### PHASE I REMEDIAL DESIGN

##### Schedule for Deliverables

Within one month of authorization to proceed, the Consultant shall prepare a submission schedule for delivery of the Phase I work plans and additional documentation described in Section XI of the Scope of Work. This schedule shall identify submittal dates for the following:

- o Health and Safety Plan;
- o Quality Assurance Project Plan;
- o Phase I Pilot Well Plan;
- o Phase I Ground Water Monitoring Plan;
- o Phase I Treatment and Discharge Plan;
- o Phase I Engineering Report; and
- o Phase I Progress Reports.

The basis for establishing a schedule for preparation of the Phase II Work Plan and Phase II Plans and Specifications shall also be addressed.

### Preparation of Work Plans

As specified in the Scope of Work, all work accomplished during Phase I shall be performed in accordance with approved work plans. The Consultant shall prepare all work plans in accordance with the appropriate EPA guidance documents. The works plans required for Phase I activities include:

- o Health and Safety Plan;
- o Quality Assurance Project Plan;
- o Phase I Pilot Well Plan;
- o Phase I Ground Water Monitoring Plan;
- o Phase I Treatment and Discharge Plan;
- o Data Management Plan; and (if required)
- o Community Relations Plan.

### Review of Available Data

The Consultant shall review all available data prior to initiating Phase I remedial activities. The primary sources of existing data are the Remedial Investigation/Feasibility Study (RI/FS) and ground water chemical data collected by the Colbert Landfill Ground Water Sampling Committee subsequent to completion of the RI/FS.

### Property Access and Permitting

The County shall take the lead in property access, but the Consultant shall assist the County in determining the locations required for remedial facilities, and identifying alternative locations which may be pursued should access to the primary site be denied. The Consultant shall assist the County in developing

an approach to permitting during the early stages of Phase I design.

#### PHASE I PILOT STUDY CONSTRUCTION

The Consultant shall undertake Phase I pilot study construction in a two-step process. First, the Consultant shall conduct additional site characterization activities to better define the geohydrology and contamination distribution in proximity to the proposed locations for the south, west, and east extraction systems. Additional characterization shall consist primarily of the installation of ground water monitoring wells, ground water sampling and chemical analyses, and evaluation of geohydrologic parameters such as ground water flow direction and aquifer saturated thickness. Second, the Consultant shall use these data to select final pilot study design parameters and facility locations.

#### Drilling Program

In order to implement the Phase I drilling program in a timely and cost-effective manner, the Consultant shall use a combination of air rotary and cable tool drilling techniques. Due to the variable geohydrologic conditions in the south, west, and east areas, the Consultant shall implement separate drilling approaches for each area, as subsequently described in this section.

For the purposes of this SOS, it shall be assumed that the regulatory authorities will not require any greater control of excess drilling water and soil cuttings during Phase I activities than were required during field activities for the Remedial

Investigation. Should more stringent control be imposed, the Consultant shall modify the drilling program to include more cable tool drilling and less air rotary drilling. If so required, the schedule and cost for drilling activities shall also be modified to reflect the additional time required for drilling.

#### Pilot Study Treatment Systems

The pilot treatment systems shall be specifically designed to treat the influent compounds and anticipated concentrations shown in Table 1; anticipated concentrations may be modified by the Consultant based on preliminary Phase I ground water monitoring results. The required effluent quality of specific parameters is listed in Table 2. The presence and desired removal of any additional compound(s) not shown in Table 1 shall be discussed with the County for possible impact on the overall scope of work.

Table 1. EXPECTED GROUND WATER QUALITY

	Anticipated influent concentration (ppb)		
	South	West	East
1,1,1 trichloroethane	420	1,400	1,900
1,1-dichloroethylene	10	100	100
1,1-dichloroethane	210	100	65
Trichloroethylene	10	14	10
Tetrachloroethylene	--	4	--
Methylene chloride	--	630	500



Table 2. REQUIRED EFFLUENT QUALITY

	Evaluation criteria (ppb)
1,1,1 trichloroethane	200
1,1-dichloroethylene	7
1,1-dichloroethane	4,050
Trichloroethylene	5
Tetrachloroethylene	7
Methylene chloride	25

### Chemical Analysis

As specified in the Scope of Work, chemical analyses shall focus on the six compounds:

1,1,-Trichloroethane  
 1,1,-Dichloroethylene  
 1,1,-Dichloroethane  
 Trichloroethylene  
 Tetrachloroethylene  
 Methylene Chloride

Analyses shall be performed using EPA Method 8010. Analyses shall also be performed for other parameters (such as temperature, pH, conductivity, hardness, iron, and manganese) based on requirements determined during Phase I and Phase II treatment system design activities. Additional indicator parameters commonly associated with sanitary landfill leachate (such as Chemical Oxygen Demand [COD], Total Organic Carbon [TOC], Chloride, Sulfate, Nitrate, and Total Suspended Solids) shall be analyzed for from some west and east system monitoring wells close to the landfill site to assess the potential impact of landfill leachate on Phase II treatment system design.

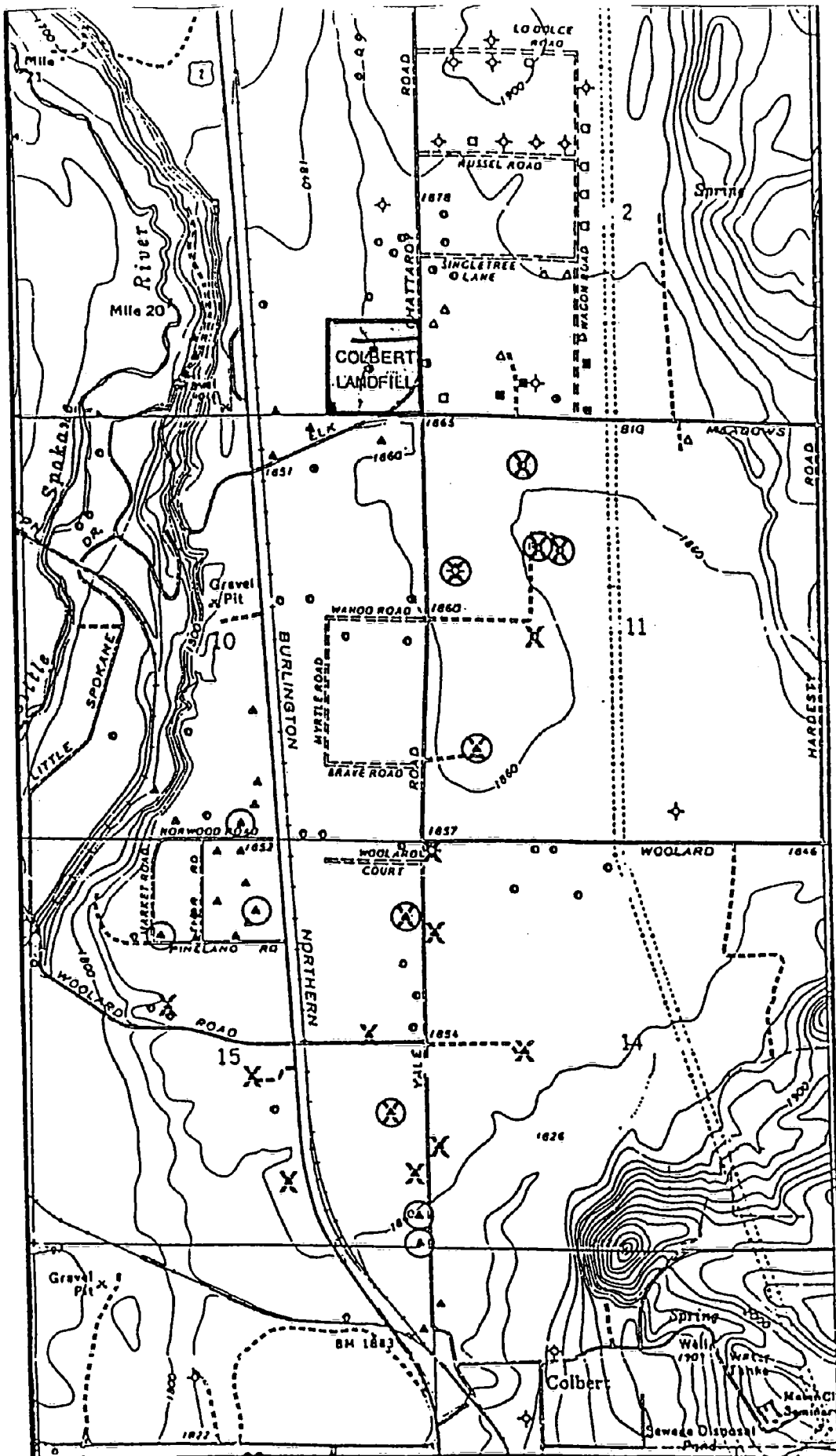
### South System

The Consultant shall accomplish additional evaluation of the upper sand and gravel aquifer prior to final selection of the initial Phase I-South monitoring well locations to minimize the

possibility of the mislocation of these wells. First, the Consultant shall verify ("field truth") well depths and static water levels for existing domestic wells near the tentative location selected for the south system, and along the east margin of the upper sand and gravel aquifer. In conjunction with field truthing of these domestic wells, a ground water elevation survey shall be accomplished to better define ground water flow direction near the leading edge of the contaminant plume in the upper aquifer. An elevation survey of selected domestic wells shall be accomplished as part of this ground water elevation survey. Figure 1-A shows the wells the Consultant intends to evaluate as part of this characterization effort for the south system, specific wells shall depend on property access.

If contamination migration in the upper aquifer cannot be adequately characterized for initial Phase I monitoring well selection following this preliminary investigation, the Consultant shall consider conducting a soil/gas survey. Prior to making a final recommendation to the County, the Consultant shall obtain (from Ecology) and evaluate the QA/QC procedures used for the RI soil/gas survey and assess the probability of obtaining useful information from an additional soil/gas survey. The soil/gas survey (if accomplished) is not included in the present SOS.

Following the preliminary evaluation just described (with or without a soil/gas survey), the Consultant shall install three ground water monitoring wells for additional characterization of the geohydrologic properties and contamination distribution near



**KEY**

- Elevation Survey
- X Well Depth Determination

0 2000  
Scale in Feet

LANDAU ASSOCIATES, INC.

Field Verification Locations  
Upper Aquifer

the leading edge of the plume in the upper sand and gravel aquifer. The approximate locations for these initial monitoring wells are shown on Figure IV-1 of the Scope of Work. However, these locations may be modified based on the additional evaluation previously described.

It is anticipated that the wells for the south system will be approximately 100 feet deep. The Consultant shall use air rotary drilling (Odex method) for all wells (monitoring and pilot) constructed within this area. Only cutting samples shall be collected for drilling above the water table (about the upper 80 feet). However, drive samples shall be obtained on approximately 5-foot intervals from the water table to the base of the upper aquifer. The Consultant shall construct monitoring wells using threaded 2-inch Schedule 80 PVC pipe, install a sandpack to about 10 feet above the well screen, and grout the remainder of the boring using bentonite slurry.

The Consultant shall collect ground water samples from these initial monitoring wells for chemical analysis and shall select the final location for the pilot extraction well based on the subsequent chemical results and geohydrologic evaluation. The Consultant shall construct the pilot extraction well using 6- or 8-inch diameter steel casing and a stainless steel screen. If the selected pilot well location is not close to at least one of the three initial monitoring wells, the Consultant shall install up to two additional monitoring wells to assess the performance of the pilot well; these additional monitoring wells (if required) are not included in the present SOS. The pilot well and additional monitoring wells (if required) shall be

constructed using the same drilling, sampling, and chemical analyses procedures as the initial three monitoring wells.

The Consultant shall install an air stripping tower for treatment of extracted water during Phase I-South pilot study operations. This treatment system shall be sized and equipped to accommodate anticipated Phase I discharge rates and contaminant mass flux.

The Consultant shall bury Phase I pipelines. The Consultant shall size the Phase I-South discharge line to accommodate anticipated Phase II flows along that portion of the discharge line where Phase I and Phase II discharges are anticipated to follow a common utility corridor. The Consultant shall convey Phase I discharge water a sufficient distance to the north of the pilot well (about 2000 feet) to minimize interference with Phase I pilot studies, and then recharge the effluent to the shallow sand and gravel aquifer.

#### West System

The alignment for the Phase II-West interception system has been specified in the Scope of Work. Therefore, the Phase I-West pilot study will not form the basis for the location of the interception system with respect to the leading edge of the plume; rather it shall be used to obtain sufficient geohydrologic and chemical data for proper design of the Phase II-West system.

Initially, the Consultant shall install ground water monitoring wells at the four approximate locations shown on Figure IV-3 of the Scope of Work. Up to three monitoring wells shall be installed at each of these monitoring well locations, all

screened within the lower sand and gravel aquifer. To minimize the possibility of cross contamination between the upper and lower aquifers, monitoring wells shall be constructed in clusters with a single well in each boring.

Monitoring wells (and the pilot well) shall be installed using air rotary (Odex) drilling. The casing shall be sealed and downsized within the lacustrine unit to minimize the potential for downward migration of contaminants from the upper sand and gravel aquifer. The boring shall be advanced until the base of the lower sand and gravel aquifer is encountered, estimated to be 350 feet from the ground surface based on available data. The Consultant shall collect soil cutting samples during boring advancement, and shall obtain drive samples from the base of the lower sand and gravel aquifer for verification purposes. The Consultant shall accomplish monitoring well installation using 2-inch Schedule 80 PVC pipe, and shall install a natural sandpack throughout the lower sand and gravel aquifer and grout the remainder of the boring using bentonite slurry.

Following installation and development, the Consultant shall sample the monitoring wells and the samples shall be analyzed as described for the south system.

The Consultant shall design the Phase I-West pilot well based on the geohydrologic and chemical results obtained from the initial monitoring wells. The pilot well shall be installed near the location shown on Figure IV-3 of the Scope of Work (unless initial monitoring well data indicate a more appropriate location), using air rotary drilling techniques (Odex). The pilot

well shall be constructed of 6- to 8-inch steel casing with stainless steel screen and a seal shall be placed within the lacustrine unit, as previously described for the Phase I-West monitoring wells.

Evaluation of the proposed Phase I-West gravity stripping pilot treatment facility shall be delayed until some time during Phase II operations, and conventional air stripping shall be used for treatment of Phase I-West extracted ground water. The Consultant shall use a central treatment facility for Phase I-West and East systems located at or near the landfill.

Phase I-West effluent shall be discharged to the Little Spokane River and the Highway 2 pipeline crossing shall be sized to accommodate anticipated Phase II flows. The Consultant shall evaluate the potential cost savings of sizing other Phase I pipeline components for Phase II flow, and shall submit recommendations to the County based on this evaluation.

#### East System

The Consultant shall employ a combination of air rotary and cable tool drilling techniques for the installation of monitoring and pilot wells for construction of the Phase II-East pilot system. Initially, the Consultant shall install multiple completion monitoring wells at the four approximate locations shown on Figure IV-2 of the Scope of Work. However, site access and the results of the upper aquifer preliminary evaluation may impact the location of some of these wells. Monitoring wells at each monitoring well location shall be constructed in clusters (a single well in each boring). The deepest well in each cluster

shall be constructed first, using a combination of air rotary and cable tool drilling techniques. The Consultant shall employ air rotary drilling techniques (conventional) for approximately the first 80 feet, and then complete the remainder of the boring using cable tool methods. The casing shall be sealed and down-sized within the lacustrine unit (if present). The boring shall then be advanced and driven soil samples collected at approximate 5-foot intervals to obtain accurate stratigraphic information.

The additional borings within each well cluster shall be advanced using air rotary drilling techniques based on the stratigraphic information obtained from the initial boring. These initial monitoring well clusters shall be constructed, developed, and sampled in a similar manner to that described for the south and west systems. Chemical analyses shall also be similar, although additional parameters commonly associated with landfill leachate shall also be analyzed for from at least one of the monitoring wells.

The Consultant shall design and construct the two pilot wells and associated additional monitoring wells (if required) based on the stratigraphic, geohydrologic, and chemical data obtained from the initial monitoring wells; these additional monitoring wells (if required) are not included in the present SOS. Additional monitoring wells (if necessary) shall be constructed in the same manner as described for the initial monitoring wells. The Consultant shall construct the pilot wells using air rotary drilling techniques (Odex) based on the stratigraphic and geohydrologic data obtained from the closest cluster of monitoring wells.



The Consultant shall bury pipelines from the Phase I-East pilot wells to the treatment facility for protection against cold weather and vandalism. Treatment for Phase I-East pilot studies shall be accomplished using air stripping. A combined Phase I-East/West treatment facility shall be located within the landfill site or on property adjacent to the landfill, if available.

The Consultant shall accomplish air monitoring in conjunction with Phase I-East pilot study operations. The air monitoring system shall consist of two major components: 1) meteorological data collection, and 2) air quality sampling; the air quality sampling network shall operate during Phase I-East pilot studies only. The Consultant anticipates that the meteorological station will consist of a pole-mounted temperature, wind speed, and direction sensing assembly hardwired to a secure box containing a data logger and battery power source. The air sampling network shall consist of a minimum of three sampling stations, each using adsorption tubes to capture the volatile organics for analysis in a fully certified laboratory. The Consultant shall use a minimum of three sampling stations, including: one station upwind to provide the background and laboratory analytical check simultaneously; one sampling station to provide the stripping tower plume samples; and one station to provide downwind samples. The sampling station orientation shall be based on available wind rose data (Spokane and Deer Park airports) for the season of operation, and data developed from the onsite meteorological station.

The Consultant shall discharge Phase I-East effluent to the Little Spokane River. The Consultant shall evaluate the possibility of sizing some of these Phase I-East pipelines for Phase II flow during final Phase I design and provide a recommendation to the County.

#### PHASE I PILOT STUDY OPERATION

As described in the Scope of Work, Phase I operations for each system are expected to require at least one month of operation. Pumping tests for the Phase I-South, -East, and -West systems shall be accomplished by the Consultant to evaluate hydrogeologic parameters and pumping well efficiencies. The Consultant anticipates accomplishing both constant flow rate and step drawdown pumping tests to obtain the data required for Phase II interception system design. Water level data shall be collected from the two nearest monitoring wells and the pumping well (at least for step drawdown testing), and from appropriate domestic wells (provided site access is granted).

As specified in the Scope of Work, the Consultant shall collect ground water samples from the pilot well and the two closest monitoring wells weekly during the first four weeks of operation of the pilot study. Should the pilot study extend beyond four weeks, the Consultant shall collect additional samples on a quarterly basis. Sampling beyond the first four weeks is not included in the present SOS. These samples shall be analyzed for the same constituents as the initial samples collected following monitoring and pilot well construction. The

Consultant shall collect and analyze samples of treatment effluent on a weekly basis.

The Consultant shall accomplish air stripping treatability studies as part of Phase I operations. The data collected for treatability study input shall include:

- o The influent and effluent laboratory analyses, and
- o The daily operating log sheets used to record the operating conditions of the air stripper for all test periods.

#### PHASE I PROGRESS REPORTS

The Consultant shall prepare Phase I progress reports for review by the County and submittal to the EPA. These progress reports shall be prepared monthly during periods of construction and quarterly thereafter, and shall describe activities accomplished since the previous progress report, activities anticipated for the next reporting period, and any problems encountered or anticipated in commencing or completing these activities.

#### EVALUATION OF PHASE I DATA

The Consultant shall evaluate the data collected during the Phase I pilot studies to develop the design parameters required for Phase II Remedial Design. The Consultant shall analyze pumping test data to determine the geohydrologic parameters required for the interception systems (south and west) and the extraction system (east) design, for sizing of pipelines, and to evaluate the flow capacity requirements for the treatment system(s). Ground water monitoring chemical results shall be evaluated to assist in the proper location of the interception and extraction systems, and for contaminant mass flux estimates

for treatment system design and air modeling (per Section V.D. of the Scope of Work). Chemical analyses of treatment system influent and effluent, and treatment system operations data, shall be used in treatability studies for stripping tower design.

The Consultant shall use the air monitoring data collected during Phase I-East pilot studies to re-evaluate the need for Phase II air emissions abatement. This re-evaluation procedure shall include:

- o Rerunning the air dispersion model using the onsite meteorological station data. If agreement between model and field data is poor, then a new model shall be selected;
- o Compiling and comparing both the background (upwind) and pilot plant affected (downwind) air quality data to the model predictions and air stripper mass balance;
- o Calculating exposed population risk to volatile organic compounds; and
- o Comparing calculated to allowable risk.

The Consultant shall prepare a Phase I engineering report that:

- o Describes the activities accomplished during Phase I;
- o Presents data collected during these Phase I activities;
- o Describes the methods used to analyze the Phase I data and the results of these analyses;
- o Presents conclusions resulting from the Phase I activities and subsequent data analysis; and
- o Assesses the impact of these conclusions on the selected remedial approach.

The Consultant shall prepare this report for the review and approval of the County and subsequent submittal to the regulatory authorities for their review.

## PHASE II REMEDIAL DESIGN

The Consultant shall develop the Phase II remedial design based on the data and design parameters developed during Phase I activities and other available data from the RI and domestic well monitoring. The Phase II interception systems (south and west) and Phase II source control (extraction) system (east) shall be designed utilizing the geohydrologic and chemical data obtained during Phase I. The south and west interception systems shall be designed using capture zone analyses as specified in the Scope of Work. The Consultant shall develop a ground water flow model to assess interferences between the east and west extraction and interception systems, the impact of the remedial action on adjacent domestic well usage, and as a possible tool to determine the criteria for institutional controls. The selected ground water flow model shall be such that it may be coupled with a contaminant transport model if necessary.

The treatment system(s) shall be designed using the Phase I chemical data and treatability analyses and anticipated inflows based on interception system and extraction system design. The Consultant shall further evaluate the economics of a combined treatment facility for the south, west, and east systems and provide a final recommendation to the County. The Consultant shall also design and estimate the costs for all Phase II

discharge systems and outfalls, including the energy recovery system (hydropower generation), associated with discharge to the Little Spokane River.

The Consultant shall develop the following Phase II work plans as part of the preliminary remedial action design for Phase II:

- o Phase II Extraction Well Plan;
- o Phase II Ground Water Monitoring Plan; and
- o Phase II Treatment and Discharge Plan.

These work plans shall present the basic design for each of the remedial components, but will not include the level of detail that will be set forth in the plans and specifications. The Consultant shall submit preliminary and final drafts of these work plans to fulfill the 30 percent and 60 percent design submittal requirements, respectively.

The Consultant shall also prepare the procedural work plan components, including:

- o QA/QC Plan;
- o Health and Safety Plan;
- o Data Management Plan; and (if required)
- o Community Relations Plan.

Following completion of the work plans and subsequent review and approval by the government plaintiffs, the Consultant shall prepare the plans and specifications for the Phase II remedial action. These plans and specifications shall address all the remedial action components described in the Phase II work plans, and shall be submitted for review and approval at the 90 percent

design completion stage. The Consultant shall also prepare an operations and maintenance (O&M) plan in conjunction with development of the plans and specifications and submit this plan with the 90 percent completion plans and specifications. This operations and maintenance plan shall describe:

- o Description of equipment;
- o Normal operations and maintenance;
- o Potential operating problems;
- o Routine monitoring and laboratory testing;
- o Alternate O&M;
- o Safety plan;
- o Records and reporting requirements; and
- o Annual O&M budget.

After completion of the final drawings and specifications, a construction cost estimate and O&M cost projection shall be prepared.

## ATTACHMENT B

### COLBERT LANDFILL REMEDIAL DESIGN/REMEDIAL ACTION ESTIMATED COST BUDGET\* ENGINEERING SERVICES

#### Total Project

Estimate for Scope of Services defined in Section III of Agreement for the period of 1989 through 1992.

Consultant Labor at Direct Payroll Cost	\$ 673,000
Consultant Overhead (161%)	\$1,083,500
Rebillable Expense and Equipment	\$ 704,300
Major Subcontractor	\$ 958,000
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Cost Subtotal	\$3,418,800
Contingency (Approx. 15%)	\$ 498,300
Consultant's Fixed Fee	\$ 382,900
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Project Total	\$4,300,000

#### Summary By Task

I. Overall Project Management	\$ 109,700
II. Phase I Plans/Design	\$ 293,000
III. Pilot Study Construction	\$1,775,000
IV. Pilot Study Operation	\$ 404,000
V. Phase I Data Evaluation	\$ 109,000
VI. Reports	\$ 140,000
VII. Phase II Work Plans	\$ 451,000
VIII. Phase II Design, Plans and Specs	\$ 520,000
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Subtotal	\$3,801,700
Contingency (15% of Cost)	\$ 498,300
	-----
Project Total	\$4,300,000

\* The estimated cost budgets are based on and subject to the assumptions and qualifications in the attached notes.



## COST SUMMARY NOTES

### SPECIFIC NOTES

#### I. Overall Project Management

- o Overall - contracting, coordination.
- o Fifteen man-trips to Spokane.

#### II. Phase I Plans/Design

##### Work Plans

- o Task coordination, administration, and communication/computer equipment.
- o Based on existing Consent Decree Scope of Work.
- o Five man-trips to Seattle by subconsultants for meetings.
- o Six man-trips to Spokane for meetings.
- o Includes some input by public relations subconsultant.
- o Six copies of each draft and 15 copies of each final work plan for distribution.
- o Assumes one round of work plan revisions.

##### Design

- o Two site facility plans.
- o Details for 4 pilot wells.
- o Details for 11 monitoring well locations, including clustered wells at some locations.
- o Details for piping from well heads to stripping tower, including one drawing.
- o Seven drawings for pilot treatment plant and site development.
- o Nine drawings for piping plan, highway crossing, and discharge point; total of about 6,200 lineal feet of collection and discharge piping.

### Upper Aquifer Verification

- o Well depth determination of 17 existing wells.
- o Elevation survey for 12 existing wells.
- o Ground water level measurements in 30 existing wells.

### Authorizations

- o County to arrange property access. Consultant to provide boundary and right-of-way survey.
- o County to prepare and apply for pilot study permits. Consultant to provide general technical input.

### III. Pilot Study Construction

- o Ten man trips for mobilization and management of construction.
- o Includes some input by public relations subconsultant.
- o Includes arranging for construction contractors and drillers.
- o Mobilization to site.
- o Move in office trailer, utility hookup; 18 month lease.
- o Drilling and construction of wells at 4 pilot and 11 monitoring locations for a total of 31 wells. Assumes maximum drilled depths of 350 feet, 280 feet, and 100 feet for west, east, and south wells, respectively.
- o Drilling for period of April through November. Extra costs will be incurred for winter activities.
- o Includes health and safety equipment during well construction.
- o Assumes no requirements for special handling of drilling cuttings or water.
- o Location and elevation survey of all new monitoring wells.
- o Site preparation, utilities, fencing construction for water treatment and air monitoring facilities.

- o Stripping tower site construction.
- o Water sampling for 31 new and 14 existing wells and chemical analyses.

#### IV. Pilot Study Operation

- o Includes input from public relations subconsultant.
- o Pump test at each pilot well, 4 weeks duration each, including pump and operation.
- o Installation of bladder pumps in 20 monitoring wells.
- o Rental of single 100 gpm stripping tower for 4 months.
- o Chemical analysis of stripping tower discharge at once per week during four 1-month tests.
- o Chemical analysis of samples from up to 20 monitoring and pilot wells during pilot tests.
- o Air quality monitoring for 2 months before and 1 month during operation of east pilot system. Data collection 3 times per month.
- o Meteorologic data for 12 to 18 months during Phase I activity. Data collection once per month.

#### V. Phase I Data Evaluation

- o Data evaluation and development of design parameters for Phase II extraction systems, water treatment system(s), and pipelines.
- o Air modeling for evaluation of off gas treatment requirements (if any).
- o No meetings planned.

#### VI. Reports

- o Monthly progress reports through Phase I construction, quarterly thereafter (5 copies each).
- o Progress report scope limited to that described in Section XI.A. of the Colbert Landfill Consent Decree.
- o Includes 6 copies of draft and 10 copies of final Phase I Engineering Report.
- o No meetings planned.

VII. Phase II Work Plans

- o Includes 6 man-trips.
- o Assumes 6 agency meetings to agree on plume interception and extraction system design and water treatment requirements.
- o Includes printing of 12 review sets of work plan drafts.
- o Assumes draft and final work plans constitute 30 and 60 percent design submittals, respectively.
- o Includes Health and Safety, QA/QC, monitoring well, and community relations work plan updates.
- o Includes development of Extraction Well, Treatment and Discharge, and Data Management Work Plans.
- o Includes ground water flow model as part of extraction system design.

VIII Phase II Design, Plans and Specifications

- o Includes 12 man-trips of team for review of drawings.
- o Includes printing of 12 review sets for 2 reviews each and 12 final sets of drawings.
- o Facilities design includes preparation of about 40 total drawings.
- o Includes printing of 8 copies of O&M plan, with 2 man-trips during final preparation.
- o Includes review of critical design elements by Engineering Technical Review Board.